Panasonic

Digital Disk Recorder

WJ-ND300 SATA conversion guide (RAID)

22. Jan. 2009

System Solutions Company

1. Outline

This guide describes how to convert the hard disk drive installed in the WJ-ND300, ND300A from PATA type to SATA type.

2. Preparation

Following items are required for the SATA conversion.

(1) Screwdriver

(2) Wrench for hexagonal nut (5.5m/m)

(3) SATA HDD: Refet to the HDD compatibility chart in the BIG-WEB site.

(4) SATA conversion kit (0E0A0061AA)

Part name	Part number	Quantity
SATA Board Ass'y	JHE30JKY3A	2
SATA cables	K1V224Y20004 (SATA: RED, Power: RED/BLUE)	1 each
	K1V224Y20005 (SATA: GLAY, Power: RED/YELLOW)	
	K1V224Y20004 (SATA: RED, Power: WHITE/PURPLE)	
	K1V224Y20004 (SATA: GLAY, Power: WHITE/ORANGE)	
Cord clamp	FCA16	9
SATA board mounting bracket	3CA006051AAA	1
Hexagonal spacer 7 mm	1CJ001311AAA	4
Screw with washer	XYN3+F8FJ	4
Caution label	3PC001235AAA	1
HDD Caution label	3PD003138BAA	1
SATA Cable label	3PD003960AAA	1
SATA label, small (for front)	3PD003840AAA	1
SATA label, large (for top)	3PD003841AAA	4
SATA conversion leaflet	ND300PSATARB	1

3. Replacement Procedure

Important ++

- Power off the unit and disconnect from the mains power supply before carrying out this work.
- Do not detach the cable connecting the unit and the front panel while the HDD status indicators are still lit or until 30 seconds have passed since the HDD status indicators went off.
- Protect the hard disk drives from static electricity.
- Do not stack them, or keep them upright.
- Do not use an electric screwdriver to fix them. (Tightening torque: Approx. 0.49 N · m (5 kgf · cm))
- Avoid rapid changes in the temperature/humidity to prevent condensation. (Acceptable change: within 15°C/h (59 °F/h))

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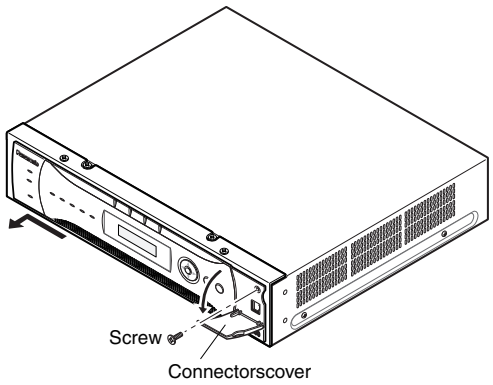
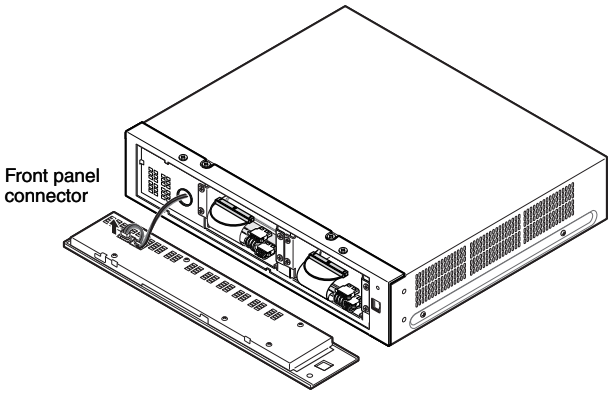
(1) Open the connectors cover on the front panel and remove the fixing screw.
Detach the front panel by sliding it after removing the screw.

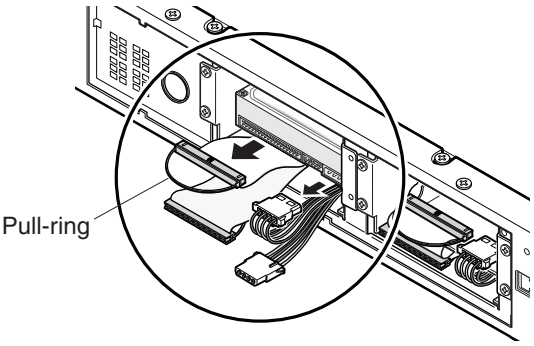


(2) Disconnect the connector from the front panel.



(3) Disconnect four ATA cables and four HDD power cables of all HDDs.

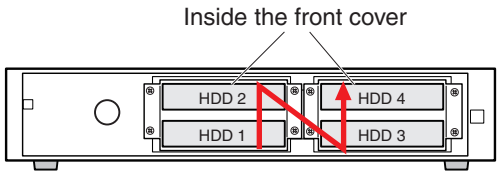
Note: When disconnecting the ATA cables, pull the pull-ring slowly and straightforward.



Important ++

The HDDs should be installed in the correct positions in the order as shown right. Do not skip a drive position or reverse the order of the HDD positions. Incorrectly placed drives will result in the recorder not recognizing the extension unit or the drives.

HDD #1 slot : HDD1	HDD #2 slot : HDD2
HDD #3 slot : HDD3	HDD #4 slot : HDD4



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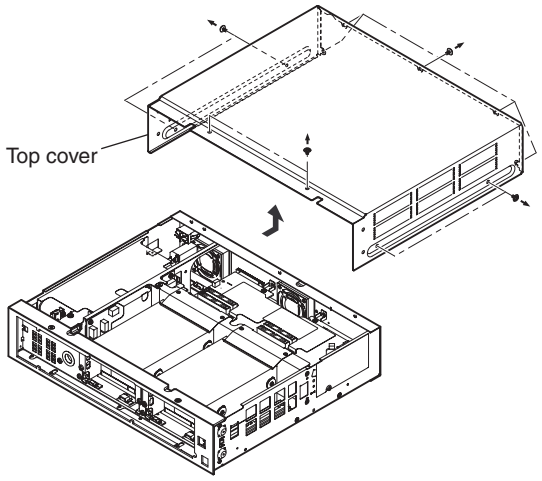
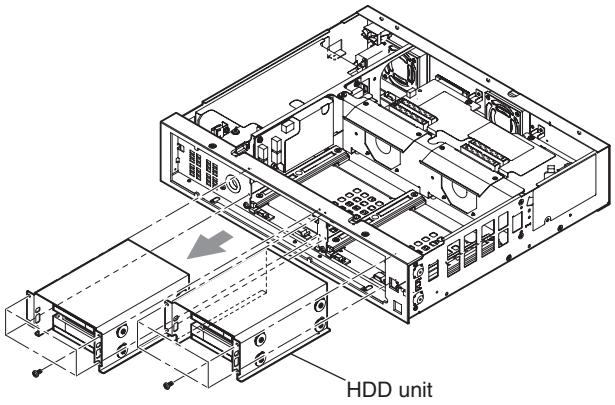
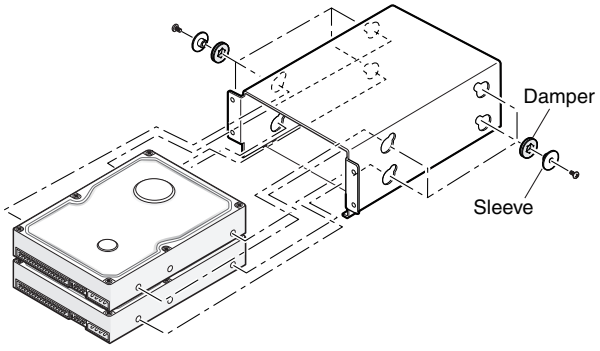
(4) Remove 11 screws that fix the top cover to the main unit, and then remove the top cover.



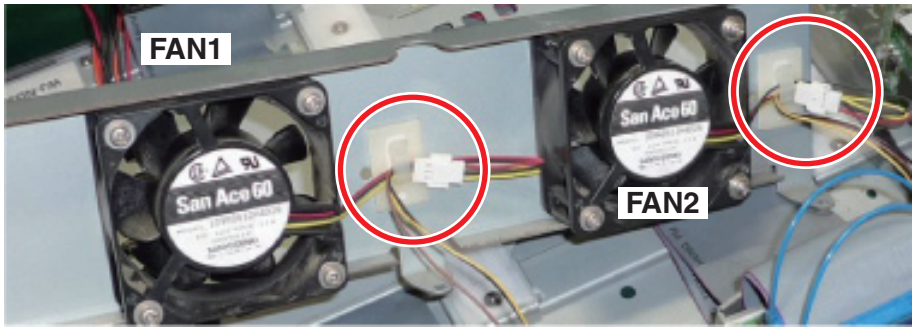
(5) Remove eight screws fixing the HDD unit, pull out the unit.



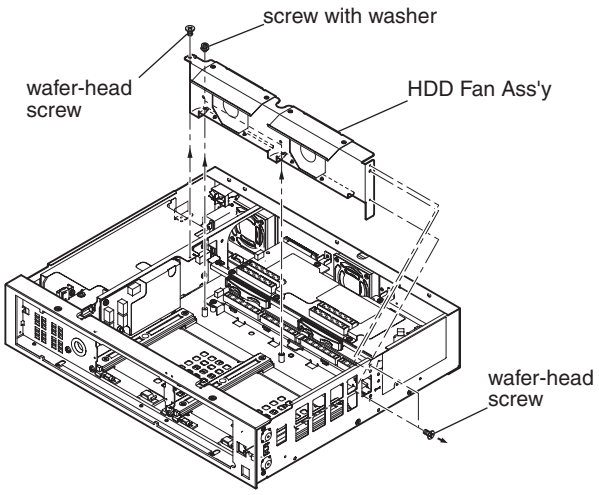
(6) Remove the screws (four pieces each) fixing the HDDs, the sleeves and dampers and then remove the HDDs.



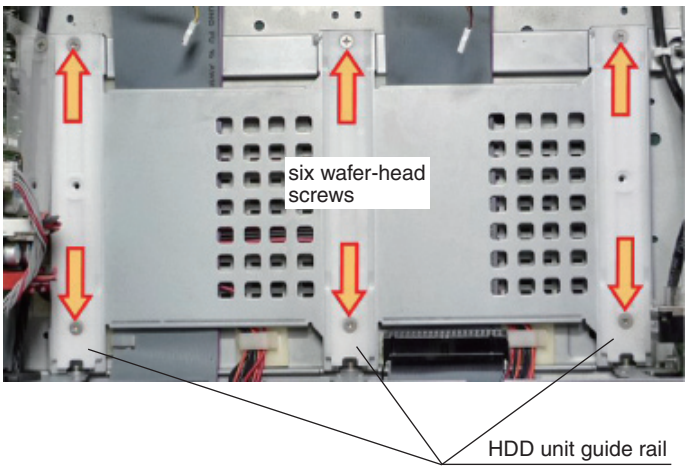
(7) Release the radiator fan cable from two cord clamps attached to the HDD Fan Ass'y, and disconnect respective junction connectors, and remove the HDD Fan Ass'y.



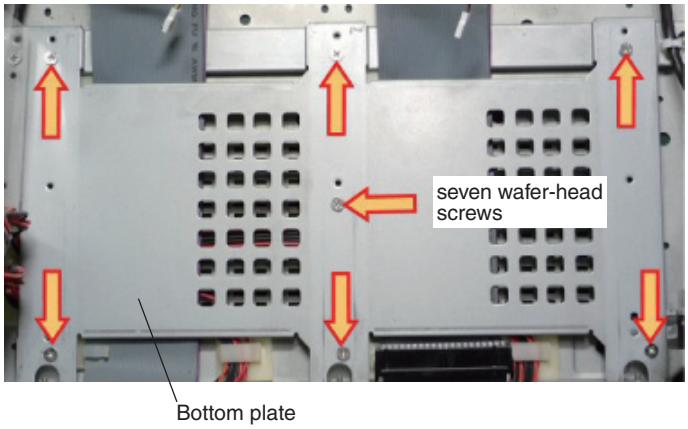
(8) Remove five screws (3x wafer-head screws, 2x screw with washer) fixing the HDD Fan Ass'y and then remove the HDD fan Ass'y.

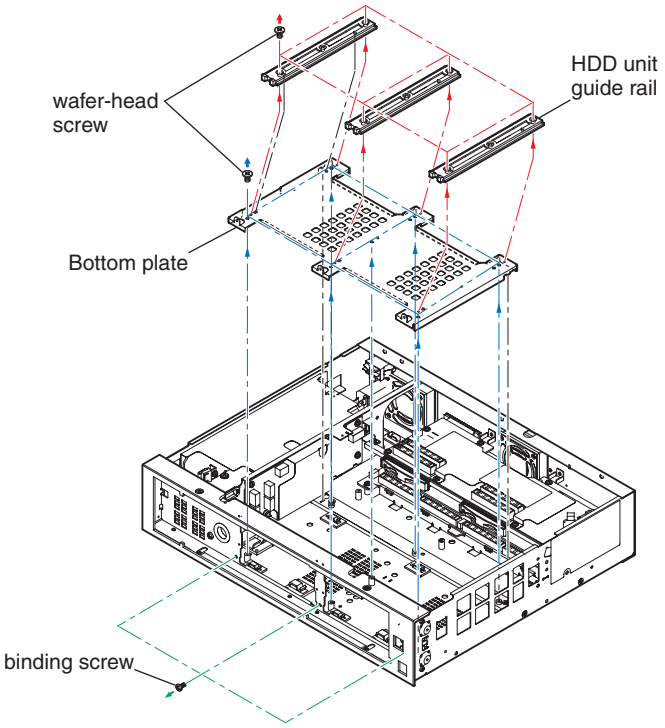


(9) Remove six screws (Wafer-head screws) and remove three HDD unit guide rails.



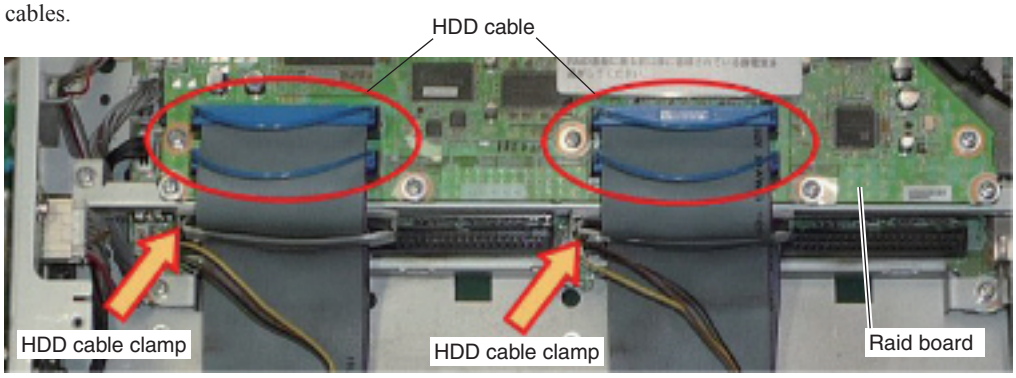
(10) Remove seven inside screws (wafer-head screws) and three front screws (binding screws) that secure the bottom plate, and remove the bottom plate.





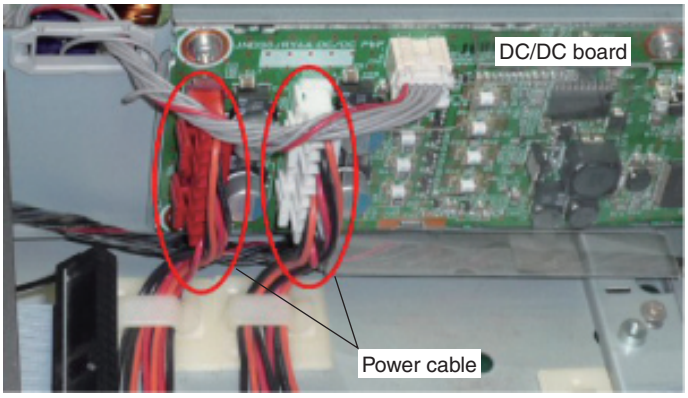
(11) Disconnect four HDD cables from the Raid board, and release the cables from the HDD cable clamps, and then remove the HDD cables.

Note: Discard the removed HDD cables.



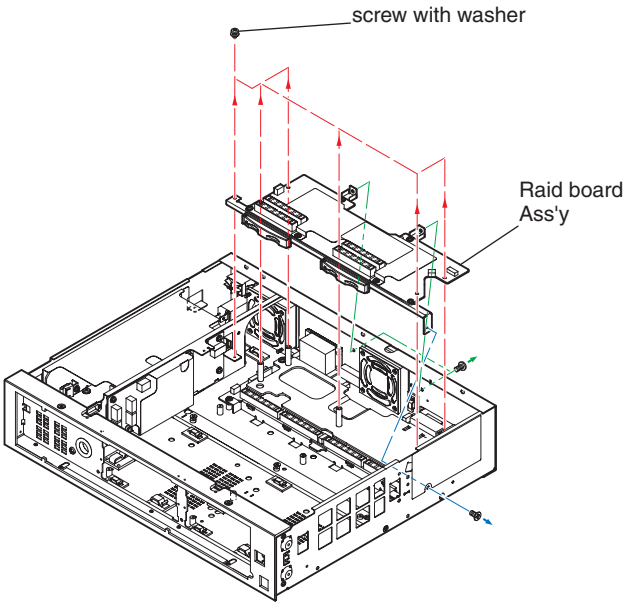
(12) Disconnect four power cables from the DC/DC board, and remove the power cables.

Note: Discard the removed power cables.



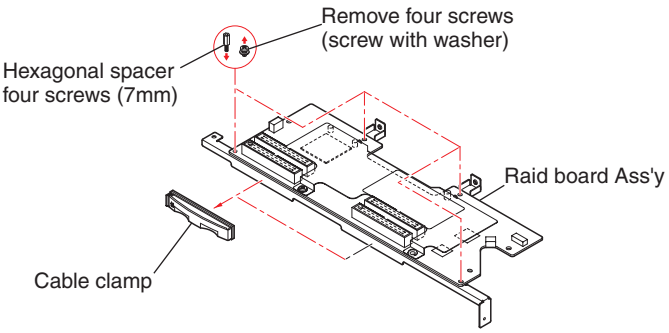
(13) Disconnect three cables (CN501, CN601, CN602) from the Raid board.

(14) Remove nine screws (1x wafer-head screw, 6x screw with washer, 2x binding screw) fixing the Raid board Ass'y, and remove the Raid board Ass'y.



(15) Remove four screws (screw with washer) fixing the Raid board Ass'y mounting angle and the fix the Raid board Ass'y mounting angle with four hexagonal spacers (7mm).

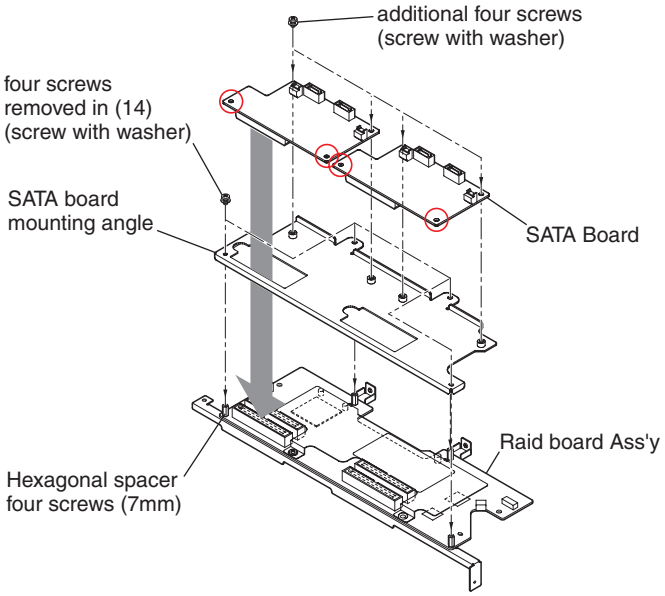
(16) Remove two cable clamps.



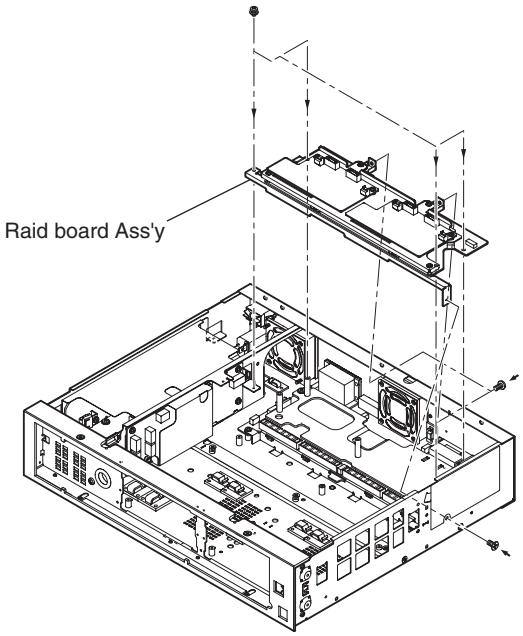
(17) Fix the SATA board mounting angle to the hexagonal spacers with using the screws removed in (14).

(18) Insert two SATA boards into the ATA connectors on the Raid board Ass'y, and fix them with four additional screws.

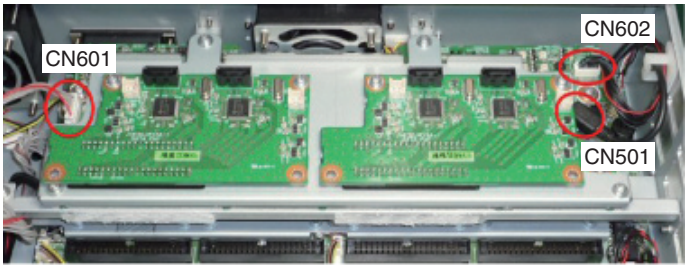
Note: Circled tapped holes on the SATA connector side are not necessarily screwed.



(19) Secure the Raid board Ass'y to the Main board Ass'y with seven screws.

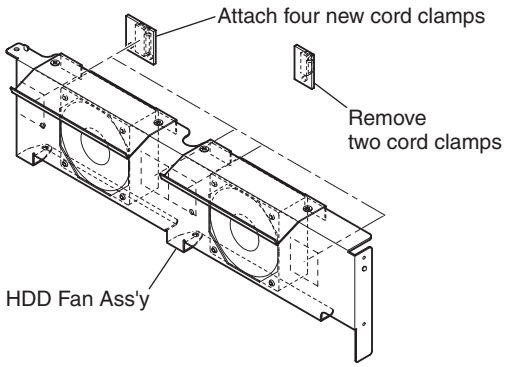


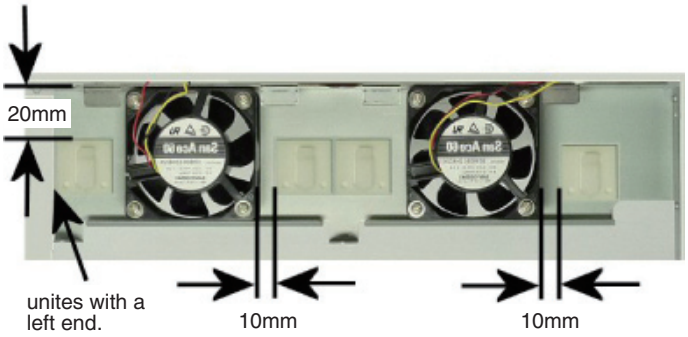
(20) Connect three cables to the Raid board.



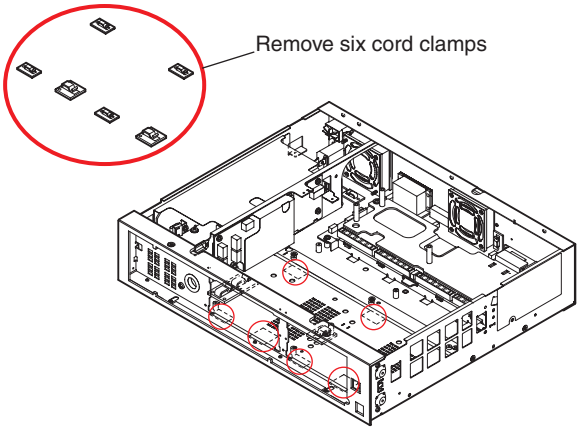
(21) Remove two cord clamps from the HDD Fan Ass'y, and attach four new cord clamps.

Note: Peel off the double-sided tape, not leaving any portion.

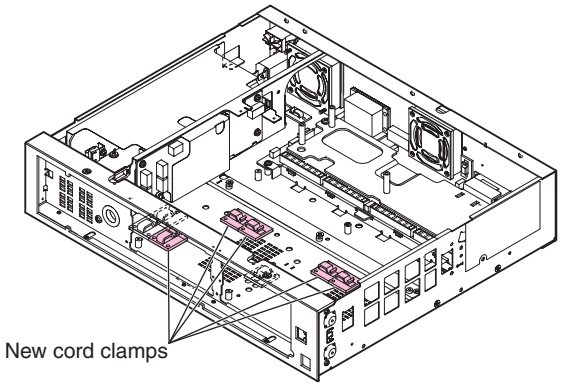


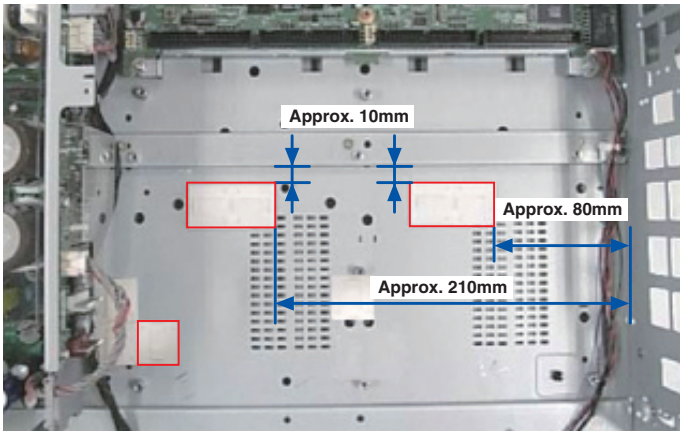


(22) Remove six cord clamps from the bottom of main unit chassis.

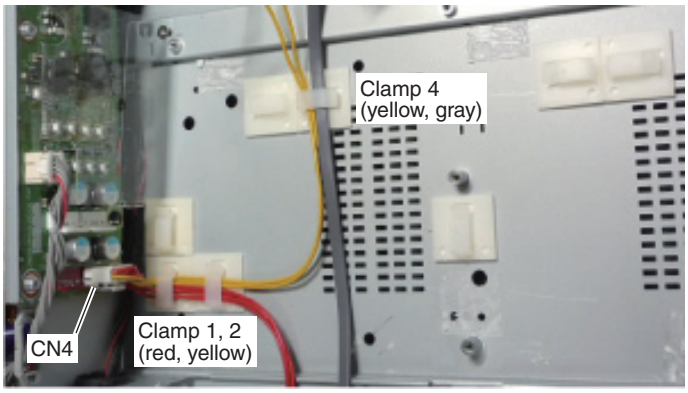


(23) Attach five new cord clamps.

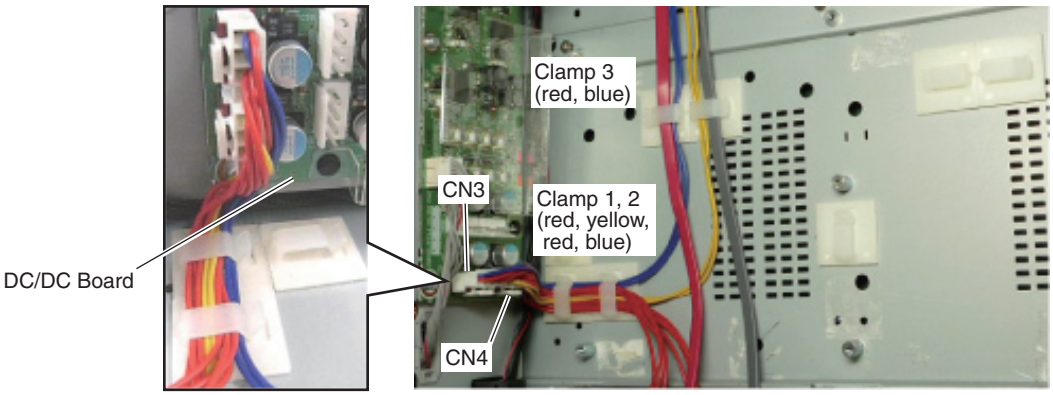




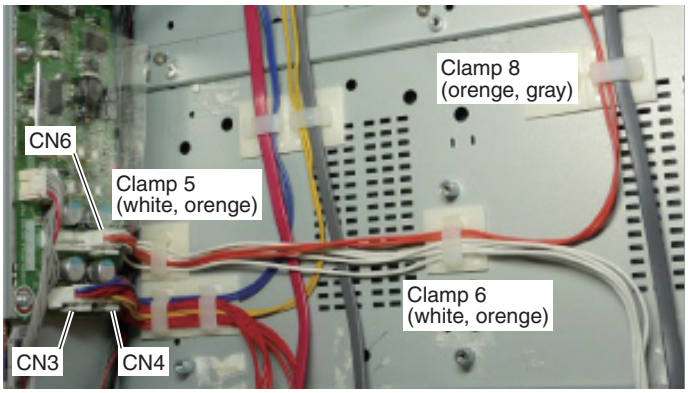
(24) Connect the power cables (red, yellow) to the CN4 of DC/DC board, and pass them through the clamps 1, 2, 4 as shown right.



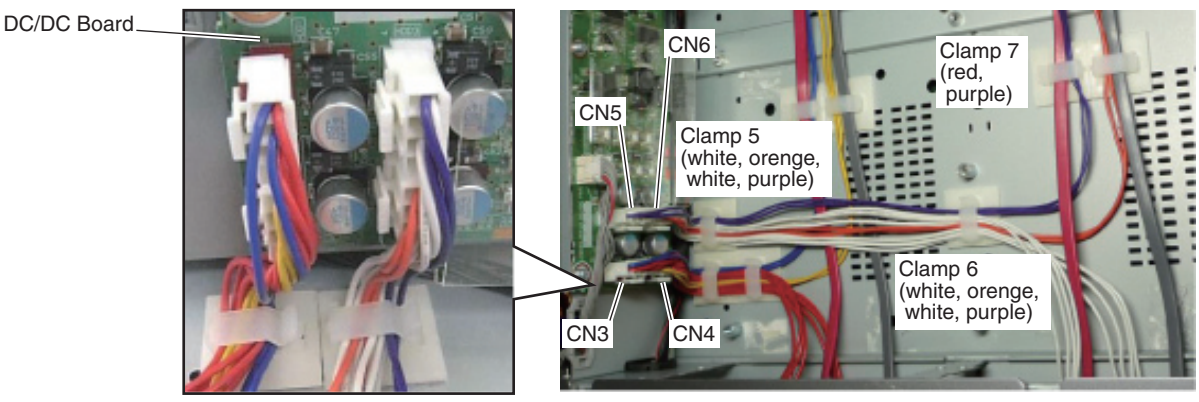
(25) Connect the power cables (red, blue) to the CN3 of DC/DC board, and pass them through the clamps 1, 2, 3 as shown below.



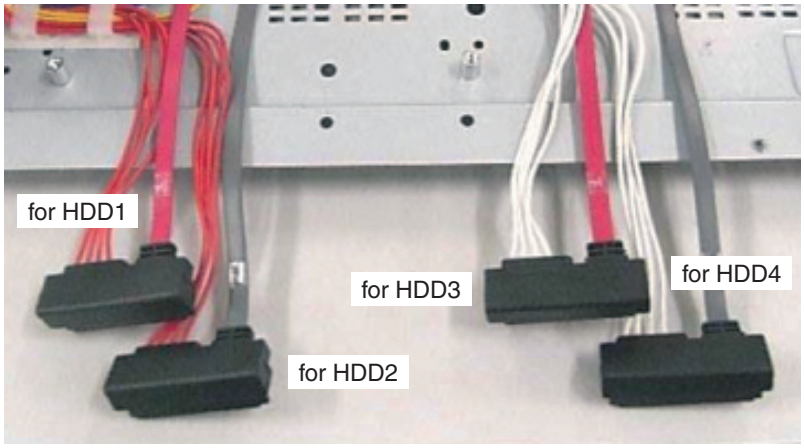
(26) Connect the power cables (white, orange) to the CN6 of DC/DC board, and pass them through the clamps 5, 6, 8 as shown right.

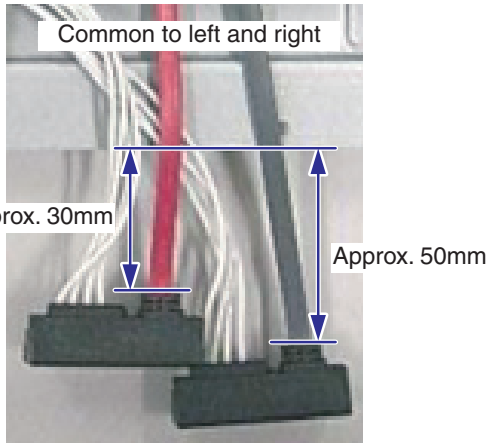


(27) Connect the power cables (white, purple) to the CN5 of DC/DC board, and pass them through the clamps 5, 6, 7 as shown below.

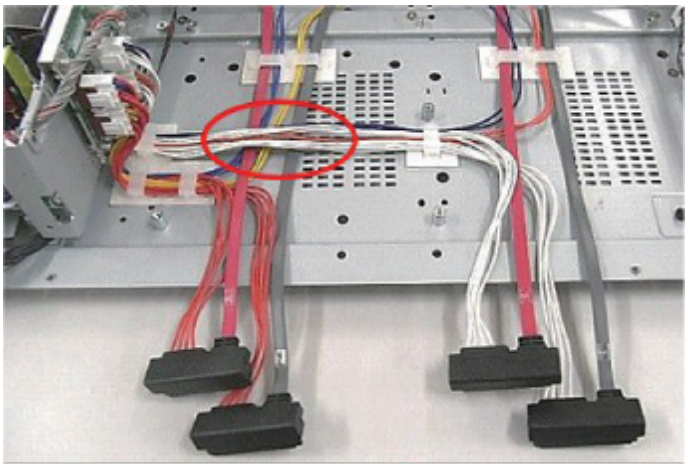


(28) Adjust the length of SATA cables and secure them as shown below.





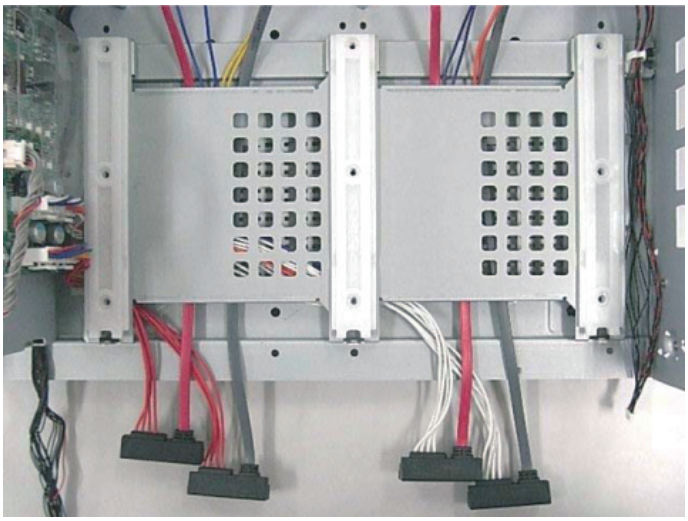
(29) Make the cables flat at an intersection as shown right.



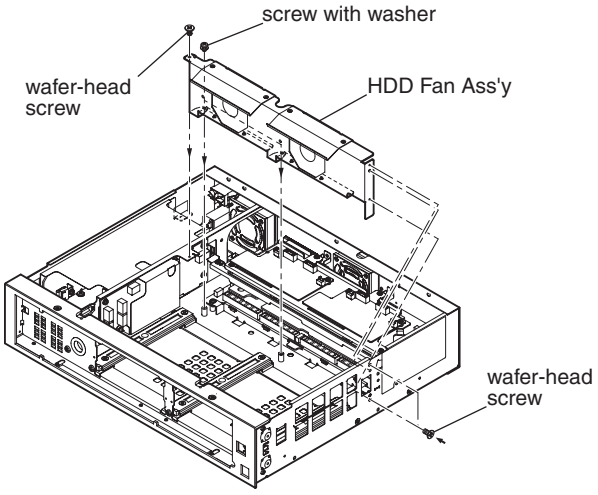
(30) Insert convex portions of bottom plate into the holes in the main unit chassis, and secure it with ten screws (7x wafer-head screws, 3x binding screws).

(31) Insert convex portions of three HDD rails into the holes in the bottom plate, and secure them with two screws each.

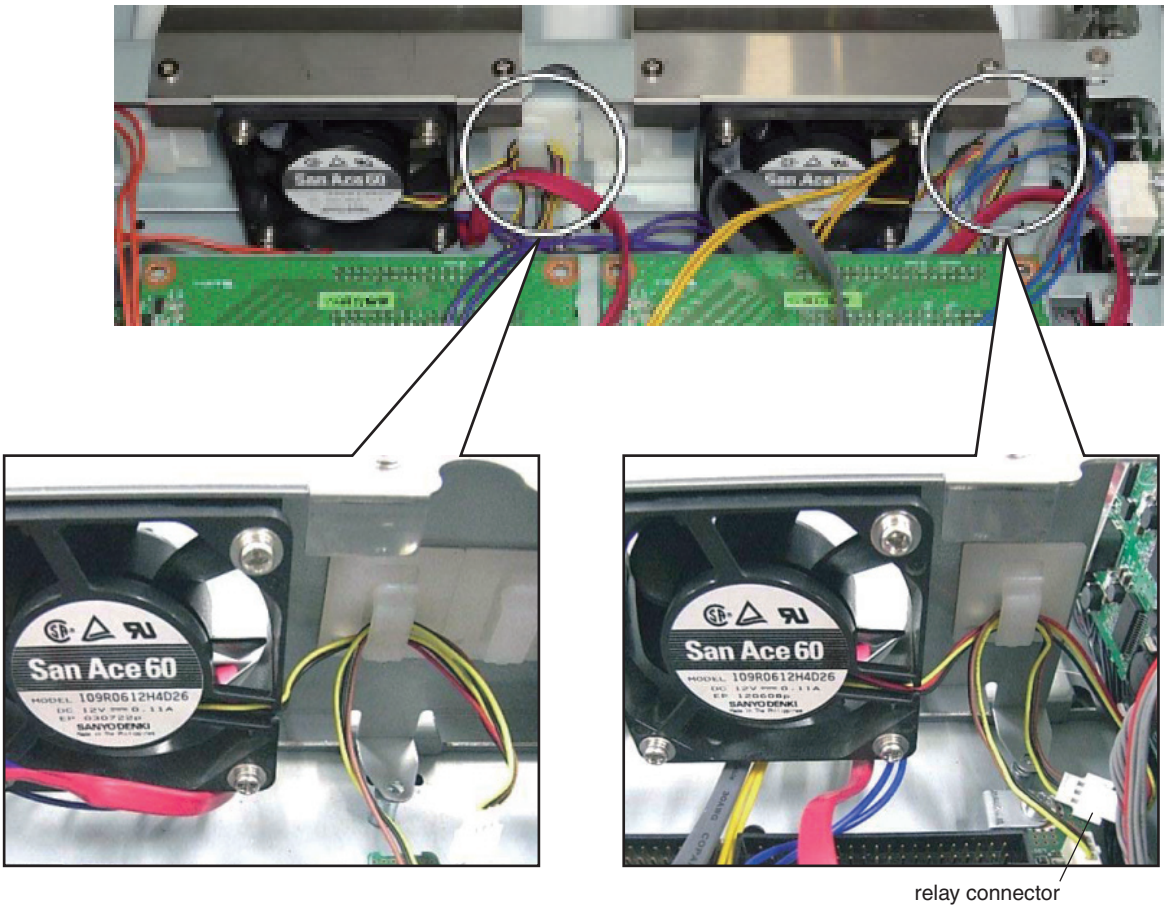
Note: Beware of cables



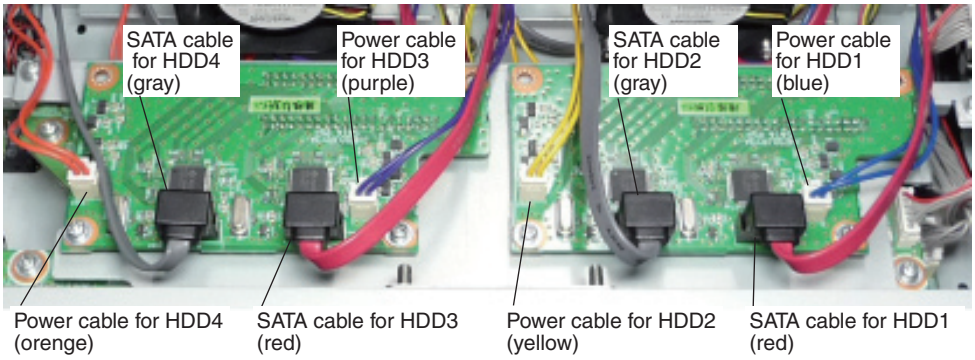
(32) Fix HDD Fan assembly with five screws (3x wafer-head screws, 2x screw with washer), and connect each HDD Fan connector to the main board.



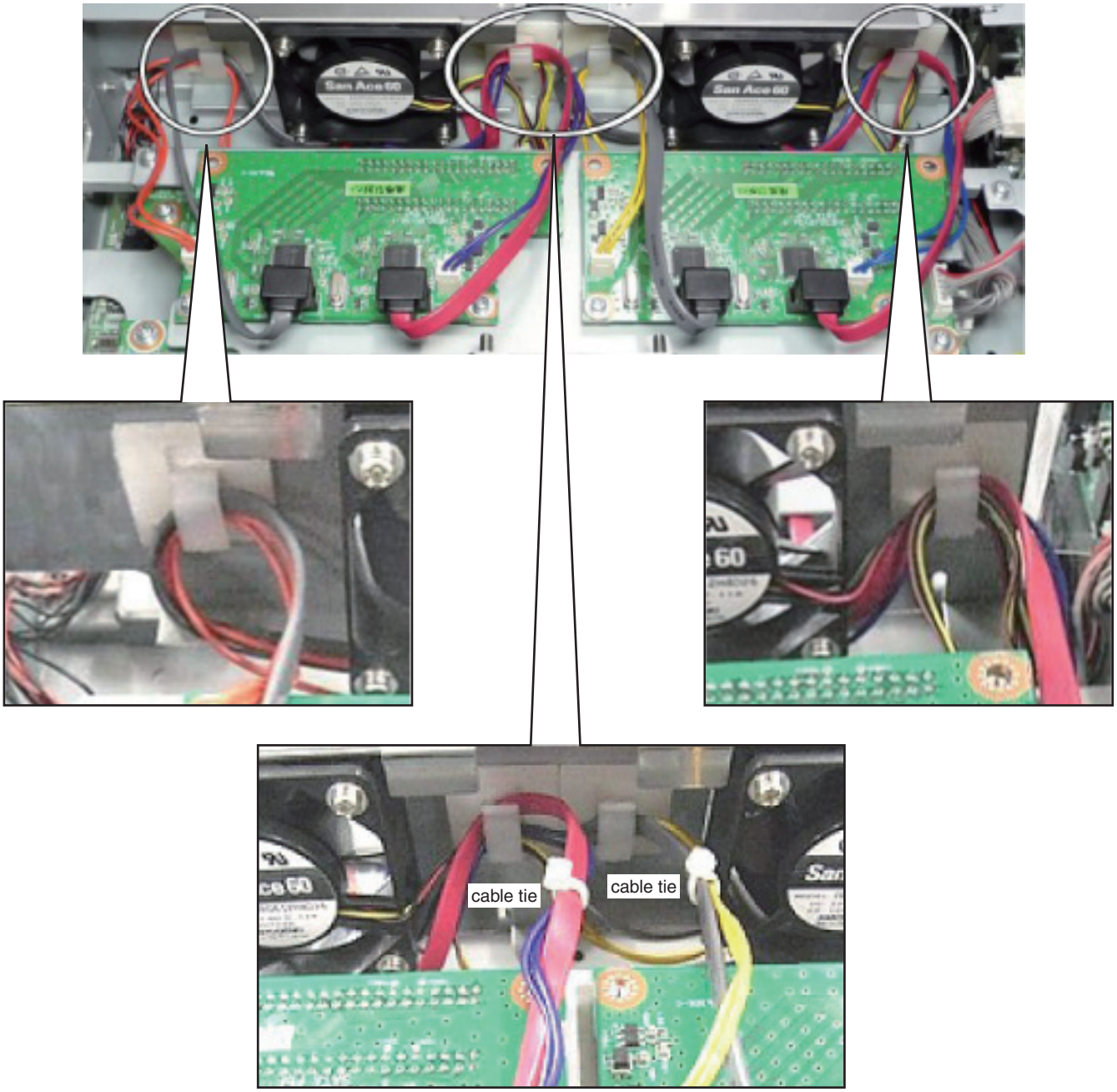
(33) Connect the junction connectors of each fan, and pass them through the clamps as shown below.



(34) Connect the SATA cables and power cables to each Raid SATA board as shown below.


SATA cable for HDD4 (gray)
Power cable for HDD3 (purple)
SATA cable for HDD2 (gray)
Power cable for HDD1 (blue)
Power cable for HDD4 (orenge)
SATA cable for HDD3 (red)
Power cable for HDD2 (yellow)
SATA cable for HDD1 (red)

(35) Pass the SATA cables and power cables through the clamps and fasten them with two cable ties as shown below.

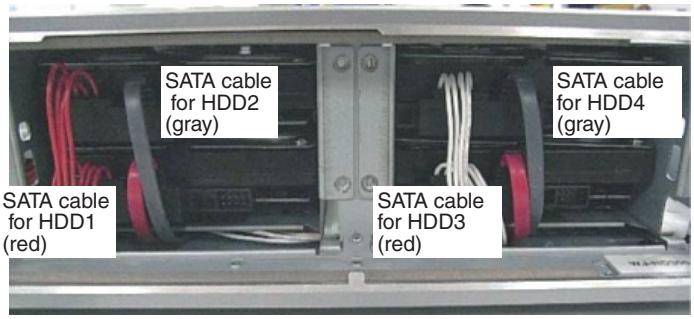


(36) Install new HDDs on the HDD mounting brackets with four screws each. Refer to the "Operating Instructions" for detail.

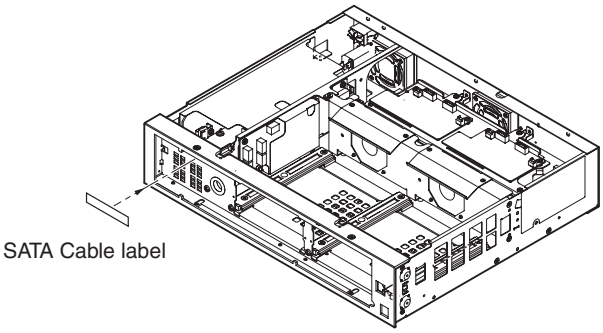
Notes:
SATA HDD's do not require jumper configuration.
Install the HDD, board side facing down and the connectors pointing toward the front.
Take care not to deform the dampers when installing the HDD.

(37) Install the HDD unit in the reverse order of the removal.

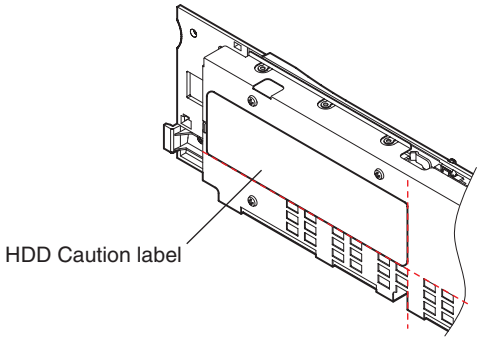
(38) Connect the SATA cables to the HDDs as shown right.
Make sure that the connectors have been inserted completely.



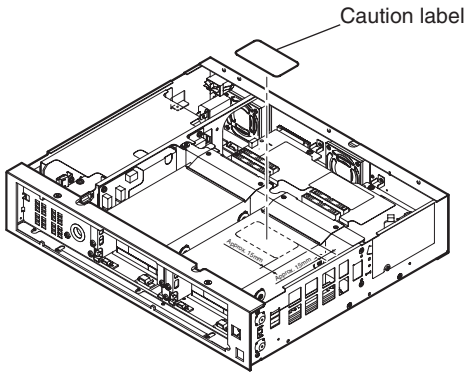
(39) Attach the SATA Cable label to the specified location on the front panel chassis.



(40) Remove HDD Caution label from the Front panel Ass'y, and attach new HDD Caution label.

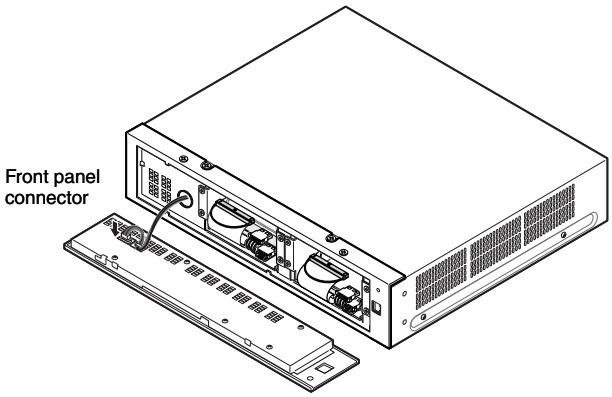


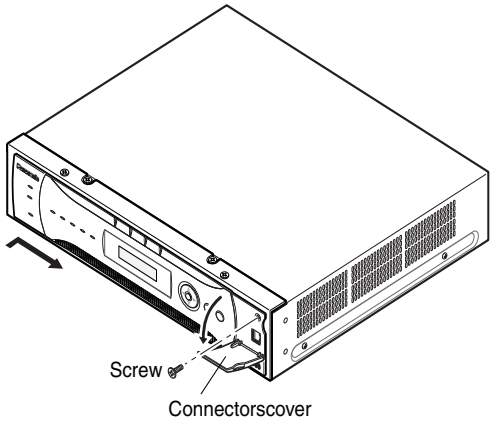
(41) Attach the Caution label to the specified location on the HDD unit.



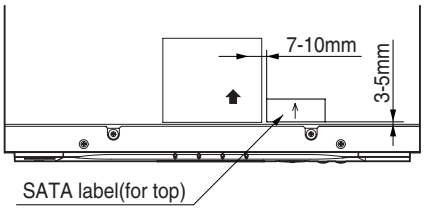
(42) Install the top cover on the main unit with 11 screws.

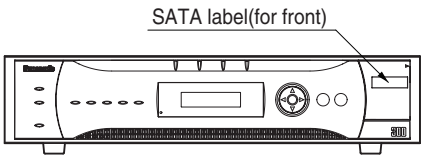
(43) Connect the connector to the front panel and fix the front panel with one screw in the reverse order of the removal.





(44) Attach the SATA label, large (for top) to the top panel.
Attach the SATA label, small (for front) to the front panel.





Note:
The new HDDs need to be formatted before operation. Refer to the Operating Instructions for detail.

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